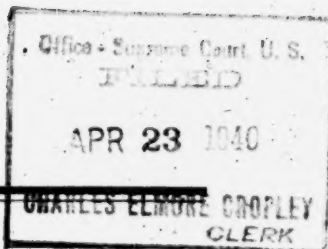


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No. 681.



IN THE
Supreme Court of the United States

OCTOBER TERM, 1939.

No. 681.

RAILROAD COMMISSION OF TEXAS, ET AL., *Petitioners,*

v.

ROWAN AND NICHOLS OIL COMPANY, *Respondent.*

On Writ of Certiorari in the United States Circuit Court
of Appeals for the Fifth Circuit.

BRIEF AMICUS.

{ NORMAN L. MEYERS,
Washington Buikling,
Washington, D. C.,
Amicus Curiae.

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Hardwicke, on Texas in "History of Conservation of Oil and Gas, A Symposium," (American Bar As- soc., Mineral Section), pp. 238-243	20
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Marshall and Meyers, "Legal Planning of Petroleum Production," 41 Yale Law Journal 33 (1931)	21
Marshall and Meyers, "Legal Planning of Petroleum Production: Two Years of Proration," 42 Yale Law Journal 701, (1933)	24, 27
1 Summers, Oil and Gas (2d ed.), sec. 62, p. 124	20
Thuss, Texas Oil and Gas (2d ed.), p. 16	20
Walker, The Problem of the Small Tract Under Spac- ing Regulations, 47 Texas Law Review, 157 (1938) ..	22

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OPINIONS BELOW.

The opinion of the District Court (R. 64) is reported in 28 F. Supp. 131. The opinion of the Circuit Court of Appeals (R. 1005) is reported in 107 F. (2d) 70.

JURISDICTION.

The judgment of the Circuit Court of Appeals was entered on November 3, 1939 (R. 1010). The petition for the writ of certiorari was filed in this Court on January 29,

1940, and the petition was granted by this Court on March 11, 1940. The jurisdiction of this Court is invoked under section 240 of the Judicial Code as amended by the Act of February 13, 1925 (U. S. C., title 28, section 347).

STATEMENT.

An injunction granted to the Respondent was affirmed by the Circuit Court of Appeals giving relief to the Respondent from a proration order of the Railroad Commission of Texas on the ground that the order deprived Respondent of its property without due process of law in violation of the 14th Amendment to the Constitution of the United States in that it denied the Respondent an "equal opportunity with other owners in the East Texas field to recover that portion of the oil to which it is entitled" (R. 10). This Brief is filed on behalf of "other owners of the oil" who allege that they are being irreparably injured by the injunction affirmed by the Circuit Court of Appeals and here for review, and further that should the basis for proration laid down by the courts below be allowed to stand that they, rather than Respondent, properly can claim that *they* would be deprived of "equal opportunity" under proration.

The order of the Railroad Commission, it is alleged by Petitioners, is necessary for the conservation of oil and gas, is in conformity with the conservation laws of Texas, and that under it the Respondent was receiving and would receive in the future its fair share of the recoverable oil in the East Texas field (R. 48). The proration order of the Commission embodies no logical formula which would equitably distribute oil in a vacuum but is designed to meet the specific physical characteristics of this particular field and the wells producing in it under spacing rules complementary to the proration orders in achieving conservation. To comprehend fully the issues in this case, it is essential to consider the basic proration order within the framework of the proration system as it operates in the East Texas field.

I. The Physical Character of the East Texas Field.

Size and shape. The East Texas field, the largest discovered field in the world, is about forty miles in length from north to south, has an average width of about four miles, and has a surface acreage of approximately 133,000 acres. The field has a common reservoir located about 3,600 feet below the surface (R. 556). It is part of the eastern extremity of the Woodbine formation which was an early geological shoreline. In cross-section from east to west the field is roughly triangular in shape with the top and long side tilting upward to the east (R. 353). The top side and the lower eastern side of the triangle which begins in about the center of the field are formed by impervious rock formations which entrap the oil within the porous interstices in the reservoir sand. The lower western side of the triangle consists of an oil-water face where the water column in the interstices of the Woodbine sand extending from an outcrop at the surface, approximately a hundred and fifty miles to the west, dips down and presses upon the oil accumulation. The oil producing sand is approximately 100 feet thick through the center of the field, diminishing to nothing both on the east where it pinches out and on the west where its porous spaces are filled with water instead of oil (R. 102).

Water-drive field. The East Texas field is predominantly a water-drive field, the pressure of the water furnishing the chief reservoir energy of the field (R. 361). All of the natural gas in this field is found in solution with the oil. The water-drive pressure fulfills, therefore, two vital functions. The pressure upon the oil exerted by the water in the general reservoir (the reservoir energy) propels the oil through the individual wells (R. 604). As long as this is maintained above a minimum level, a well pressure at the bore of the wells will maintain an efficient flush flow. Secondly, the pressure, as long as it is maintained above the minimum, will keep the gas in solution and thereby greatly

decreases the viscosity and increases the fluidity of the oil. At the time of discovery, the bottom hole pressure was about 1,625 pounds per square inch (R. 354). At the commencement of the trial of this case the average bottom hole pressure had dropped only to 1,106 pounds (R. 358).^{*} During this period there has been a gradual rise in the water level of about 10 feet from an average of approximately 3,320 feet below sea level.

Permeability. The East Texas field exhibits a high degree of permeability of the sand and the pressure is fairly uniformly distributed through large areas of the field. However, as the reservoir sand pinches out to the east the sand is much tighter and less permeable. The reservoir sand is interspersed with occasional strata or leases of impermeable shale and volcanic ash, particularly in the southern part of the field toward the eastern edge (R. 424). In such areas pressures are not as readily transmitted.

Pressure maintenance. At the time of discovery the pressure was practically uniformly distributed through the field. With the drilling of wells, pressure differentials are created propelling the oil to the surface, the pressure moving water in to displace the oil as it is produced (R. 355). Pressure gradients are thus set up from west to east, with the high pressure at the west graduating down. In the southern, less permeable sections of the field, the pressure can not be transmitted as readily as in the north end of the field (R. 365). For each well to recover the oil in place in the area which it would normally drain it would be necessary to shut in all but the western wells which would produce the oil in place until the rising water completely displaced the oil. Then by progressive retreats eastward in front of the advancing water each line of wells would recover its oil in place. However, the delay to producers in the east has not

^{*}The average pressure for the field is determined monthly by the Railroad Commission by taking pressure gauges on ninety-one key wells (R. 357).

been found equitable or necessary. Production schedules can be so arranged so that each well gets the oil in place or its equivalent, drainage to wells compensating for drainage away. Within specific areas where wells are produced at a rate to maintain equalized bottom hole pressures, there is a minimum of drainage as between wells. If one well produces at a much greater rate than its off-set, pressure gradients to it will cause drainage from the off-set.

In the early days of unrestricted production the drop in pressure was great. In not quite two and one-half years, from discovery to June, 1933, during which estimated production was only 319,996,000 barrels, the drop in average pressure totalled 385 pounds or 1.2 pounds per million barrels produced. Under more or less effective proration from June, 1933, to December, 1938, roughly five and one-half years, in which 906,760,000 barrels were produced, the drop was only 133.22 pounds or .147 pounds per million barrels (R. 356). In recent months, as proration has become more and more effective, by carefully limiting the total withdrawals from the field pressure has been well maintained. In the fifteen months preceding the trial of this case, the pressure drop per million barrels was only .062 pounds (R. 358).

For the whole period approximately 1,304,703,000 barrels of oil had been produced from the East Texas field. While estimates of the recoverable reserves differ, Respondent's engineers place the recoverable reserves still remaining in the field at about 2,217,000,000 barrels (R. 675). This large recovery is predicated upon the maintenance of the pressure through curtailed ratable takings by the wells in the field.

Abandonments. Because of the physical character of the fields as outlined above, the wells piercing the productive sands on the western and on the eastern side of this triangular reservoir are comparatively short lived. As the field has been produced, the western edge wells have gone to water with the rise in the water level.

Where production from the western wells has not produced all the oil in place before water penetration, the drive of the advancing water has forced a migration of the oil eastward, draining the western part to replenish the middle of the field as oil has been withdrawn from it. Insofar as production practices have not maintained a proper control to prevent irregular water encroachment, oil otherwise recoverable has been lost.

The relatively short life of the eastern wells is due primarily to the pressure drop in the field. As the pressure in the field has dropped wells on the eastern edge of the field have gone dead.

Thus far, about two-thirds of the abandonment of wells has occurred on the western side of the field due to water encroachment and one-third on the east side due to the drop in pressure as a result of the production throughout the field. (R. 363, 541, 582).

-The Fairway. The central area extending through the field is known as the Fairway with the axis running north and south. The Fairway has the greatest sand thickness, the thickest sand being about 100 feet thick. It has the longest life expectancy and stands to benefit by the gradual abandonment of outlying wells (R. 457). As the total number of wells decreases due to a shrinking of the producing area (R. 527), the more fortunately situated wells still enjoy the full benefit of the reservoir energy since the total optimum withdrawal from the field will be made through wells in a steadily shrinking area; over a period of time wells in this area will receive a markedly increased daily allowable over their prolonged life due to proration (R. 393, 456, 514, 527, 571). These wells likewise benefit from such drainage from the west as may take place because of the water encroachment (R. 462).

II. The Proration System in East Texas.

The conservation laws administered by the Railroad Commission are designed to prevent wasteful production from the field as a whole, while, at the same time, protecting the correlative rights of each producer in the field to his aliquot share. Basically production is controlled by (1) drilling and spacing regulations which limit the *number* of wells and their location and (2) by proration orders regulating the *total withdrawals* of oil from the field as a whole and allocating *allowables* (or production quotas) to the wells. The equity of the proration orders can not be judged without taking into account the development of the field under the spacing rules.

Number and spacing of wells. In accord with its Rule 37, the Railroad Commission established a ten-acre spacing program for East Texas; that is, it permitted one well to ten acres. However, Rule 37 provides that additional wells might be drilled as exceptions to the ten-acre spacing where such exception are necessary either to prevent waste or to prevent confiscation of property. Where peculiar physical conditions are shown, an exception is granted to permit additional wells. Where the owner of a small tract of less than ten acres or of irregular shape can show he can not recover his oil without an exception to the Rule, the Commission makes a practical adjustment in behalf of the property rights of the surface owner by granting permits to drill as exceptions to the general rule (R. 896).

As the East Texas field has been developed there has been a great number of "exceptions" granted either by the Commission upon application or by Court injunction overruling Commission denials. At the time of trial of this case there were approximately 25,910 wells drilled in the field (R. 221), and the average density of drilling was one well to 5.133 acres (R. 149).

The Proration Order at Issue. The Order of the Commission invalidated by the Court below in this case was promul-

gated on August 29, 1938, (R. 666) and is similar to Orders in effect since the proration order was upheld in *Amazon Petroleum Corp. v. Railroad Commission*, 5 F. Supp. 633 in February, 1934.* The Order of August 29, 1938, set the total daily allowable for the East Texas field at 522,500 barrels of oil.

A formula was then adopted which distributed allowables among the wells in the field as follows.** All wells incapable of producing more than twenty barrels a day were allowed to produce to capacity in accord with the Marginal Well Law.*** Then all wells in the field were granted a minimum allowable of twenty barrels; thus no good, flowing well was curtailed below the minimum established by law to protect the marginal wells.**** The balance of the field allowable after deducting the total allowable thus determined was allocated to the more productive wells by multiplying the factor of 2.32 per cent***** to the hourly potential of the wells, so that those wells whose hourly potential multiplied by 2.23 per cent totalled more than 20 barrels per day received an hourly allowable graduated up from 20 barrels daily to about 26 barrels daily.

The full consequence of this formula can be seen only by observing the proration order *in operation*, especially in its effect upon the Respondent's property.

*It was stipulated that this case is to cover subsequent similar orders (R. 667). The Railroad Commission, in the light of evidence introduced in its Hearing, subsequently materially changed and improved its proration formula but specifically allocated allowables to Respondent in accord with the decree below, pending decision by this Court.

**The method of proration is described in detail in a stipulation (R. 995).

***Texas Revised Civil Statutes, 1925, Art. 6049b.

****The effect upon wells more densely spaced than the average is considered hereinafter.

*****This factor was empirically determined to produce the necessary degree of curtailment.

III. The Position of Respondent's Lease.

Located in the Fairway. The property of the Respondent in this action is in the "Todd 'B' lease" of 24.99 acres situated in the northern half of the field. Located in the Fairway, its lease is located where the sand is thickest and most permeable (R. 109, 459, 460, 462).

Drilled under exceptions above average density. The Respondent has drilled five wells on this lease. All five of the wells were drilled as exceptions to Rule 37 (142-144). Two were drilled in 1931, two in 1933, and one in 1934 (R. 674-675). Each time a permit under exception to Rule 37 was obtained by the Respondent, this lease was as densely drilled or more densely drilled than the field as a whole and also of the surrounding tracts. Respondent conceded that the drilling of the wells in each case gave it a considerable density advantage over the field and also even over adjoining tracts (R. 142-152).

Respondent's lease is, and has been since 1934, drilled to a density of one well to 4.99 acres. Meanwhile, despite thousands of wells drilled in exception since 1934, the field now is drilled only to an average of one well to 5.133 acres. Furthermore, should the sixth well, for which a permit has been granted Respondent (*infra*, p. 15), its lease would be drilled to a density of one well to 4.16 acres.

Advantageous drainage to Lease. This lease had already produced over 355,000 barrels of oil up to the commencement of the trial in this case (R. 109, 191). Because of the density of wells and the production obtained during the time in which proration was established and developed, the oil produced has been replaced by oil drained from the west, north and south of Respondent's lease (R. 395, 398, 616). Despite the great production record, *the Respondent's lease still has in place beneath it substantially the same amount of oil as was originally in place beneath the lease* (R. 456). Although it claims it is damaged by drain-

age from its lease (*infra*, p. 13), Respondent is compelled to admit that through drainage to its lease under past and present proration orders it has made a net gain by drainage of an amount substantially equal to the amount of oil which has been produced from its lease (R. 621, 311).

IV. The Present Proration Order in Operation in the East Texas Field.

The productivity of a well is dependent upon many factors which a proration order must take into account, notably the area which a well drains, the sand thickness, the porosity and permeability of that sand, and the *bottom hole pressure* (R. 426). The total pressure of the field as applied to the bore of a well constitutes the bottom hole pressure for that well; the maintenance of the pressure, and thus in large measure the ultimate productivity of both a well and the entire field is dependent upon the control of production through *all* the wells in the field. Further, whether the oil reserve tapped by a given well will be recovered by that well is dependent upon whether it is recovered *in time* before water encroachment due to the production of *all wells* drains out a given well, be it on the western side of this field, or before the dissipation of the reservoir energy by the action of *all* the wells causes such a pressure drop as to make a given well, be it on the eastern side, unproductive even by pumping.

As has been pointed out (*supra*, p. 5) the limitation of total daily production in the field has reduced the average pressure drop to almost a nominal amount. The maintenance of this pressure relatively through the field by proper distribution of allowables prevents any abnormal pressure gradients to set up any undue migration of oil as between areas. Maintenance of relative pressure is a two-fold prevention problem: the prevention of any major trend of migration as between areas in a field, and the prevention of drainage as between wells more or less densely located in a given area.

A proration order must also take into account the allowance of sufficient production to a well on a small tract so as not to constitute a confiscation of the property.

The proration order challenged in this case is bottomed on these principles as applied to the physical character of the East Texas field, sufficient weight being given each factor to due equity as between conflicting interests.

A. The minimum allowable to each well. The order gives a minimum allowable of 20 barrels to each well. Thus no well is restricted below the minimum set by statute for marginal wells. This allowable at one and the same time assures sufficient production so as not to constitute confiscation of any small property and gives recognition to the surface area as a proration factor since wells are spaced on the average of one well to each 5.13 acres. Both the sand areas on the west and on the east have densely drilled areas (R. 677). Because of the peculiar physical character of this field, this minimum allowable per well also constitutes a temporary weighted factor for the western and eastern wells assuring them of sufficient opportunity to utilize the reservoir energy common to the field as a whole to recover the oil in place or its equivalent in the areas which they drain before the water encroaches or the pressure drops forcing them out of production (*Supra*, p. 6).

B. Additional allowable based on hourly potential. To the minimum allowable is added an additional allowable based on the hourly potential of each well: the hourly potential is an index of the bottom hole pressure, porosity, permeability, connate water, structural position, and in fair measure of sand thickness (R. 426, 529, 325). Thus the alleged failure to give weight to reservoir content is more apparent than real. The formula for proration gives varying weight, determined by the specific data for this field, to area by thickness by physical character of the cubical content. This is especially true as it operates over a period of time.

C. The tempo of production as affecting relative allowables. The optimum total allowable for the field (approximately 522,000 barrels as established by this Record R. 666), divided by the extraordinarily great number of wells presently in operation (25,910 at beginning of trial, R. 221) makes the range of allowables as between near marginal wells and wells of great potential capacity very narrow. At first blush this appears inequitable. But this proration formula is predicated upon the established fact that the total of wells for each proration period will progressively shrink due to abandonments as the oil in place is recovered by wells on the periphery of the field (*supra*, p. 6). Consequently, there will be a progressively increasing portion of the total allowable to be apportioned by the factor of hourly potential. Over the flush life of the field therefore the weight accorded the different factors will continuously vary because of the physical nature of the field. Wells in the Fairway where the sand is thickest and where life will be longest will have gradually increasing allowables, meanwhile giving time to other wells to recover their oil in accord with good conservation practice and during that process, conserving the reservoir energy to extend greatly the life of the Fairway wells themselves.

D. Prevention of undue drainage. The relatively sharp curtailment at present of the Fairway wells prevents the creation of unnecessary pressure gradients causing rapid drainage to the wells of greatest production. This proration schedule thus permits production of oil in place before migration would deprive a well of the oil in the area which it is capable of draining. Thus the mal-effects of the Rule of Capture are neutralized not only for the field as a whole but for the producers within the field variously situated.

V. The Objections to the Order in Operation by the Respondent.

The objections to the proration order in operation raised by the Respondent can be properly appraised only after considering the concessions of validity made by the Respondent.

A. Concessions of validity. The Respondent conceded

(1) the validity of the statute authorizing the Commission to regulate production "in a reasonable manner" (R. 13),

(2) the validity of the total field allowable of early production (R. 130, 601),

(3) the validity of the spacing regulations including provisions for exceptions to the established spacing pattern (R. 4, 21),

(4) the legality of all the wells drilled under such regulations (R. 4),

(5) the necessity of setting some minimum allowable per well (R. 328, 633, 638),

(6) the basic doctrine of ownership of oil in place.

B. Objection on ground allowable should be set solely on basis of ratio between current reserves of its lease to current reserves of field. Despite having conceded that the valid total allowable for the field must be equitably divided among all the wells in the field with some minimum daily allowable per well (determinable in the discretion of the Railroad Commission after due hearings) to the end that producers may recover oil in place beneath their lands, Respondent prayed that allowables be periodically set solely in accordance with the ratio that its *current* estimated oil reserves bear to the *current* total estimated reserves for the field (R. 7, 10, 67). Recognizing that proration under such a formula would cause material drainage to its lease, Respondent relies upon a strained interpretation of the con-

cept of "oil in place" to make it include "migratory oil" coming to its lease because of "natural" advantages (R. 308, *infra*, p. 25).

C. Objection on ground the Commission's Order would deprive Respondent of its oil in place. Respondent contends that at the present rate of total field production (522,000 barrels) and at the rate of production of its lease under the present allowable (111.83 barrels) it could not produce its oil in place before the field was exhausted, thus being deprived of its property without due process of law (R. 675).

This calculation ignores the fact that its wells will get a progressively larger allowable which will constitute an increasing proportion of the whole. See *infra*, p. 31.

D. Objection on ground that the delayed production due to the tempo of the proration formula is confiscatory. Protest is made that curtailment over a period of time to permit others having correlative rights is tantamount to present day confiscation.

Objection to curtailment to achieve conservation with protection of correlative rights is contrary to well established law. See *infra*, p. 33.

E. Objection on ground that wells on small tracts get disproportionate allowable and deny to Respondent an equal opportunity to the production of a fair share of the oil. The Respondent protests that while its wells, drilled on the average of about one well to five acres of the most productive area are limited to only twenty-two and a fraction barrels per day per well (R. 99), other wells on small tracts, chiefly in the comparatively short-lived area, and capable of only making the minimum are producing twenty barrels per day, making a great differential on a surface acreage basis (R. 118, 677).

Insofar as Respondent may be injured by drainage to wells on certain small tracts it is the result of the administration of the spacing rules and not of the proration orders for the field as a whole. See *infra*, p. 38.

VI. Attempted Relief Through Administrative Remedies.

Prior to the filing of this suit, the Respondent filed with the Railroad Commission an application for an increase in the allowable on its Todd "B" lease and on the alternative for permits under exception to Rule 37 to drill twenty additional wells. A hearing was held and a permit was granted for a sixth well (Exhibit 14, offered R. 348, copied R. 881). No action was taken on the application for an increase in the lease allowable. The sixth well has not as yet been drilled (R. 612). Upon petition for rehearing in re- to the increase in allowable, further hearings were he. by the Railroad Commission (R. 883, Exhibit 4, R. 718). This action was instituted before any further action was taken by the Railroad Commission.

VII. Respondent's Case as Sustained by Courts Below.

Having been among the leaders in the drive for dense drilling under permits as exceptions to Rule 37—and having benefitted accordingly—now that the well density in the field is approaching that of Respondent's lease, Respondent has now sued for injunctive relief asking for a new basis for proration. It contends now that it should be permitted to produce from its lease a daily allowable which bears to the total field allowable the same ratio that the *current* "estimated" recoverable oil under Respondent's lease bears to the *current* total "estimated" recoverable oil in the East Texas field.

The District Court finding for the Respondent (R. 64) entered its order (R. 76) enjoining the enforcement of the proration orders of the Railroad Commission as applied to Respondent's property. The Court accepted the Respondent's theory and also one set of estimates and calculations

showing that its lease should have an allowable of 220 barrels when the field allowable is 522,000 barrels (R. 132). In its judgment, the Court substituted a method of proration to be followed whereby the allowable for the Todd "B" lease hereafter is to be set for the Todd "B" lease at "that amount of oil which bears to the daily field allowable fixed by the Railroad Commission the ratio which 220 barrels bears to 522,000 barrels" (R. 78). The Circuit Court of Appeals accepted a second set of estimates (R. 1009) and affirmed the order of the District Court. Although it approved the setting of the lease allowable by the ratio method, nevertheless it ambiguously stated that a proration order "should take into consideration the amount of oil in place under the lease *as well as other relevant factors* and should so administer the order as to allow each lease owner to produce his fair share of the oil from the common reservoir" (R. 1011). In order to permit some change in the "temporary character of the ratio", the judgment was amended to read "without prejudice to the right of the Commission to enter a reasonable proration order and to fairly enforce it" (R. 1010).

The legal principle is thus laid down that proration must be based solely upon the ratio of estimated reserves in a lease to the estimated reserves for an entire field, *denying any weight to time element, minimum allowable, productivity of specific areas, or any other factor designed to assure an ultimate recovery over the life of the field of the oil in place by all producers in all portions of the field who are differently affected by the moving ratio between current estimates of lease and field recoverable oil due to drainage set up by this method of proration.*

SPECIFICATION OF ERRORS.

In this brief amicus the following specification of errors are considered:

(1) In holding that the proration orders of the Railroad Commission are unreasonable, arbitrary and confiscatory of the property of the Respondent, and deprive it of its property without due process of law in violation of the 14th Amendment of the Constitution of the United States.

(2) In holding that the proration orders of the Railroad Commission are unreasonable, arbitrary, and confiscatory, such orders being designed to provide a producing schedule whereby each producer may obtain substantially the equivalent of the oil in place beneath his land and an equitable share in the natural reservoir energy of the entire field, because such a schedule provides varying tempos for production which temporarily disproportionately curtail highly productive wells to enable lesser wells to produce their oil before such wells are drowned out by water or their oil is drained away.

(3) In holding that the proration orders of the Railroad Commission are unreasonable, arbitrary and confiscatory in that a minimum allowable per well is set for all wells at not less than 20 barrels.

(4) In holding that the proration orders of the Railroad Commission are unreasonable, arbitrary and confiscatory in so far as they allocate the allowable production of oil on the basis of the potential producing capacity of each well in the field.

(5) In holding that the Railroad Commission must establish proration in the East Texas field so as to allocate to the Respondent's lease a daily allowable production which bears to the total daily allowable for the field the same ratio that the estimated recoverable oil beneath such lease bears to the estimated recoverable oil in the entire field to the exclusion of all other relevant physical and engineering factors.

SUMMARY OF ARGUMENT.

Under established tenets of administrative law, the District Court should not have substituted its principle of proration for that in the order of the Railroad Commission. The Commission in the exercise of its best expert judgment promulgated the order in issue as the most equitable in the light of the evidence before it. The Record demonstrates the inequity of the principle enumerated by the District Court and shows substantial evidence in support of the Commission's order.

(1) Under Texas law, a landowner owns the oil in place beneath his land and under proration is only entitled to recover the oil in place or its equivalent. The proration formula advocated by the Respondent and accepted by the courts below denies to some producing areas a right to the oil in place or its equivalent and adds to producing areas, such as that of Respondent's, migratory oil drained to it. To do so, it distorts the doctrine of oil in place, and is confiscatory of oil producible by wells competing with those of Respondent.

(2) The proration order struck down by the courts below is not unreasonable, arbitrary or confiscatory of the property of the Respondent. The present order has evolved out of long experience and is based not on conjectural estimates but on ascertained measurable factors. The Respondent has shown no basis for it to attack the reasonableness of the order. It is not presently injured nor has any of its oil thus far been confiscated. The order does not and will not confiscate the oil in place or its equivalent beneath Respondent's lease. It does deny the Respondent's claim to "migratory oil". The Respondent is not deprived of its property without due process because of any delay in production, nor can it now complain because wells on small tracts are presently getting a relatively high allowable. The proration order based on a minimum allowable per well

plus an addition according to a weighted factor is not *per se* invalid.

ARGUMENT.

The legislature of Texas designated the Railroad Commission as the administrative agency to whose informed judgment and discretion it has submitted the determination of fact as to the physical problems inherent in proration in a specific field and the reasonableness of a method of proration on the basis of which it is authorized to make its administrative orders. Texas Revised Civil Statutes, 1925, Article 6049c.

The order at issue in this case has evolved out of a long and litigious experience by the Commission. *MacMillan v. Railroad Commission*, 51 F. (2d) 400; *Danciger Oil and Refining Company v. Railroad Commission*, 49 S. W. (2d) 837; *Constantin v. Smith*, 57 F. (2d) 227; *Peoples Petroleum Producers v. Smith*, 4 F. Supp. 361; *Peoples Petroleum Producers v. Sterling*, 60 F. (2d) 1041; *Sterling v. Constantin*, 53 S. Ct. 190; *Amazon Petroleum Corporation v. Railroad Commission*, 5 F. Supp. 633.

Absolute equity at all times and in all things is impossible because of the engineering problems involved. The Commission in the exercise of its best expert judgment promulgated the present order as the most equitable solution it can find on the basis of current knowledge. The District Court overturned the order and substituted its own principle for proration.

This action by the District Court was not in accord with the well established tenets of administrative law. The validity of an order for the East Texas field must be determined by the special circumstances in this field. The Record amply discloses through the testimony of the Commission's expert staff members the basis of the Commission's order. As long as there is substantial evidence the judgment of the expert body must stand. Even though a court upon the consideration of the evidence might reach a different conclusion, it can not substitute its own order for the

administrative order if there is a rational basis for the order adopted by the Commission. *Cf. Rochester Tel. Corp. v. U. S.*, 307 U. S. 125; *Swayne v. Hoyt*, *Id.*, U. S., 300 U. S. 297; *Mississippi Valley Barge Line Co. v. U. S.*, 292 U. S. 282. The record in this case both demonstrates the inequity of the principle adopted by the Court and the rational basis for the expert judgment of the Commission.

I.

A Landowner Owns the Oil in Place Beneath His Land and Under Proration is Only Entitled to Recover the Oil in Place or Its Equivalent.

Both the method of proration advocated by the Respondent and the method struck down rest upon the identical statement of the basic property law of oil and gas. However, the Respondent, while doing lip service to the wording of the law, would import into it a meaning contrary to its accepted sense and contradictory of the plain meaning of the words themselves.

It is uncontested that under the common law of Texas the Respondent is the owner of the oil in place* under its Todd "B" lease and is entitled to produce only its oil in place or its equivalent. *Stephens County v. Mid-Kansas Oil & Gas Co.*, 113 Tex. 160; *Texas Co. v. Daugherty*, 107 Tex. 226; *Lemar v. Garner*, 121 Texas 502, 50 S. W. (2d) 769; *Humphreys-Meria Co. v. Gammon*, 113 Texas 247, 254 S. W. 296; *Thuss, Texas Oil and Gas* (2d ed.), p. 16; 1 *Summers, Oil and Gas* (2d ed.), sec. 62, p. 124; *Hardwicke, on Texas in "History of Conservation of Oil and Gas, A Symposium,"* (American Bar Assoc., Mineral Section), pp. 238-243.

Prior to the conservation laws, the means of producing the oil in place was governed by the common law Rule of Capture. From the earliest cases in which the Rule of Capture was embodied, the Courts have recognized the cor-

*Where gas is found with the oil the principle is, of course, applicable to the gas as well.

relative rights of owners of a pool. Under the then limited knowledge of the geologic facts concerning oil accumulation and production, the courts held that ratable taking from a common reservoir of oil was to be achieved by permitting each producer to produce whatever he could from his own wells, drilled as he deemed fit. Other producers protected their correlative rights by drilling off-set wells and producing headlong to prevent drainage by their neighbors. Thus the ability of one to capture was limited by the ability of all others simultaneously to capture. It was an attempt to establish a self-operating principle which would accord each producer his fair share of oil in a pool. *Prairie Oil and Gas Co. v. State of Texas*, 231 S. W. 1085; *Stephens County v. Mid-Kansas Oil & Gas Co.*, 113 Tex. 160; *Houston & T. C. Ry. Co. v. East*, 98 Texas 146, 81 S. W. 279; *Texas Co. v. Daugherty*, 107 Tex. 226; *Waggoner Estate v. Sigler Oil Co.*, 118 Tex. 509, 19 S. W. (2d) 27; *Marshall and Meyers*, "Legal Planning of Petroleum Production," 41 Yale Law Journal, 33 (1931); *Hardwicke*, "Rule of Capture and Its Implications as Applied to Oil and Gas," 13 Tex. Law Rev. 401.

With the adoption of conservation laws a new and more equitable rule of law was created to govern the taking of oil so as to assure each producer a fair chance to recover the oil in place, or its equivalent. Instead of uncontrolled drilling, wells are located according to spacing rules; instead of unrestricted, wasteful operation, production is curtailed. The conservation laws have the dual function of (1) eliminating waste, and of (2) protecting the correlative rights of all producers in the field. *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 20 S. Ct. 576; *Walls v. Midland Carbon Co.*, 254 U. S. 300, 41 S. Ct. 118; *Bardini Petroleum Co. v. Superior Court*, 284 U. S. 8, 52 S. Ct. 103; *Champlin Refining Co. v. Corporation Commission*, 286 U. S. 210, 52 S. Ct. 559.

Both in its spacing regulations limiting the number of wells for each producer and in its proration schedules lim-

iting the production for each well the Railroad Commission must preserve the correlative rights of each producer in his claim to the oil in place beneath his lease.*

Equidistant well spacing with exceptions in order to prevent waste (R. 677, 164) or in order to prevent the confiscation of oil in place beneath a small or irregular shaped tract (R. 955) is well established. *Hardwicke, Rule of Capture and its Implications as Applied to Oil and Gas*, 13 Tex. Law Rev. 119, 391 (1934); *Walker, The Problem of the Small Tract Under Spacing Regulations*, 17 Texas Law Review, 157 (1938). The proper test of the reasonableness of such regulation is whether a producer is given

"an equal opportunity with adjoining leaseholders of developing and realizing for his leasehold."

Railroad Commission v. Bass, 105 W. (2d) 586, 588, Ct. *Orford Oil Co. v. Atlantic Oil and Oil Producing Co.*, 16 F. (2d) 639, 22 F. (2d) 597, cert. denied, 277 U. S. 586.

In a leading case on well spacing, *Brown v. Humble Oil and Refining Co.*, 126 Tex. 296, 83, S. W. (2d) 935 (1935), the Supreme Court of Texas reiterated the basic law of oil in place. It stated:

"The rule in Texas recognized the ownership of oil and gas in place, and gives to the lessee a determinable fee therein. * * * Owing to the peculiar characteristics of oil and gas, the foregoing rule of ownership of oil and gas in place should be considered in connection with the law of capture. * * * Both rules are subject to regulation under the police power of a State.

"Hence it is that the legislative power, from the peculiar nature of the right and objects upon which it is to be exerted, can be manifested for the purpose of protecting all of the collective owners, by securing a

*The spacing rules and the proration orders in effect constitute one method of curtailment of production since a producer's total quota is dependent on the number of wells and the amount per well. Consequently, the Commission's regulations must be construed together. *Falvey v. Simms*, 92 S. W. (2d) 292.

just distribution, to arise from the enjoyment, by them of their privilege to reduce to possession, and to reach the like and by preventing waste."

* * * "It (the spacing rule) guarantees the opportunity in each owner to recover his oil by providing an exception to a uniform spacing regulation that would otherwise prevent him from doing so. The exercise of the police power under this rule does not change the rule of property. It merely regulates and controls the way in which his property shall be used and enjoyed. *Each person still owns the oil and gas in place under his land, and each still has the right to possession, use, enjoyment, and ownership of the oil and gas produced through wells located on his land, regardless of its origin. The primary rule of ownership is still operative. The rule of convenience becomes secondary.*

"Conditions may arise where it would be proper, right, and just to grant exceptions to the rule so as to permit wells to be drilled on smaller tracts than prescribed therein. Also, conditions may arise where it would be proper, right, and just to permit tracts to be subdivided and such subdivisions drilled after the adoption of the rule; but in all such instances it is the duty of the commission to adjust the allowable, based upon the potential production, so as to give to the owner of such smaller tract only his just proportion of the oil and gas. By this method each person will be entitled to recover a quantity of oil and gas under his land substantially equivalent in amount to the recoverable oil and gas under his land."

Upon re-hearing in this case, the Court reiterated that it was the function of the Commission to make any necessary adjustments in its spacing and proration regulations to meet conditions as they arise. *Brown v. Humble Oil and Refining Co.*, 87 S. W. (2d) 1070.

In its proration as in its spacing orders the Railroad Commission must protect the correlative rights of all producers in the oil in place. The power to prorate has been established through a long history of court action and legislative enactment. That the Commission can curtail production by proration orders is now well established. *Champlin*

Refining Co. v. Corp. Comm., 286 U. S. 210, 52 S. Ct. 559; *Amazon Petroleum Corp. v. Ryan*, 293 U. S. 388, 55 S. Ct. 241; *Marshall and Meyers*, "Legal Planning of Petroleum Production: Two Years of Proration," 42 Yale Law Journal, 701 (1933). The Texas conservation statutes lay down only a broad principle in regard to the correlative rights of common owners of a pool. The statute requires that in any order curtailing production

"the Commission shall distribute, prorate, or otherwise apportion among the various producers on a reasonable basis."

Texas Revised Civil Statutes, 1925, Art. 6049c.

However, proration "on a reasonable basis" has uniformly been interpreted as proration designed to accord each producer in a field opportunity to obtain the oil in place beneath his lease.

"It is the law that every owner or lessee of land is entitled to a fair chance to recover the oil and gas in or under his land, or their equivalent in kind."

Gulf Land v. Atlantic Refining Co., 131 S. W. (2d) 73, 80. (1939).

On a recent reappraisal of the problem a lower Federal court accurately summarized the law as follows:

" . . . whenever the Legislature imposes lawful restrictions upon the quantity of oil or gas that may be produced, so that thereafter owners may not any longer, under the common law rule of capture, fully fend for themselves, the duty rests upon the Legislature to make provision for the proration and distribution of the allowed amount among the wells in the field, so that no one of those thus limited may take undue advantage of the other.

"We think the statute is simply and clearly phrased to give effect to a public policy, and to exercise the police power in respect to matters which the courts of Texas

and of the United States uniformly hold it is the right of the State by statute, to control. *This right extends to preventing one person from unduly draining from under the lands of another, oil and gas lying in a common pool equally when the undue drainage is for wasteful uses and when the rule of capture no longer applying, because of lawful statutory limitation, one of the owners, by drawing more than his due proportion of the limited share, is draining the lands of his co-owners."*

Henderson v. Terrell, 24 Fed. Supp. 147. Cf. *Amazon Petroleum Corp. v. Comm.*, 5 Fed. Supp. 633. *Peoples Petroleum Producers v. Smith*, 1 Fed. Supp. 361.

II.

The Proration Principle Advocated by the Respondent Denies Less Fortunately Situated Producers Right to Oil in Place and Adds to Respondent's Lease Migratory Oil Drained to It as "Oil in Place".

The principle for proration advocated by the Respondent makes a plausible pretense of adhering to the doctrine of oil in place but in fact repudiates it. Under the proposed principle, on each proration date new allowables would be predicated upon the new relationship between the reserves of Respondent's lease with the total reserves for the field. Thus by progressive stages Respondent would produce an ever increasing proportion of the field's reserves. Pressure gradients to the Respondent's lease would be increased and oil would be drained from the lands on the west. More allowable to the Fairway would mean less to the western and eastern edges and a proportionately larger utilization of the reservoir energy by the Fairway producers. The depletion of these portions of the field will be accelerated. Producers in these sections of the field would receive *less than oil in place* while the Respondent and others similarly situated would gain by migratory oil from the west, obtaining *more than oil in place*.

Respondent would justify this by shifting the emphasis from the recovery of "oil in place" to the claim of an "equal" opportunity "to produce his fair share of the oil from the common reservoir" (R. 1010). The fact that this results in the acquisition of migratory oil is ascribed to "natural advantages" of the Fairway. This means nothing more than that the Respondent, fortunately located in the Fairway, demands the protection of the conservation laws to prevent operators on the west and east from utilizing to the full, if wastefully, the reservoir energy to recover the oil in place under their lands, while at the same time itself enjoying the results of the application of the Rule of Capture, contrary to *Henderson v. Terrell, supra*, p. 25.

The estimated recoverable reserves of Respondent's lease upon which the injunction granted below is bottomed specifically includes not only oil in place but the migratory oil which will be obtained as a result of producing under the formula embodied in the injunction. Mr. Buck, who made the estimate for Respondent, testified as follows (R. 308):

"Q. Now, Mr. Buck, what do you mean by the recoverable reserves under a tract?

"A. That is how much oil he will get between now and the time that the property will be abandoned;

"Q. Do you restrict that to the oil that he will recover that is directly under his tract?

"A. No, sir, that is the amount of oil that he will reduce to possession in his tank, wherever it might come from.

"Q. Well, now, do you mean in figuring on the recoverable oil from the Rowan & Nichols tract, you figure oil that will migrate to his tract from the tracts to the west?

"A. That is correct, that all had to be taken into consideration, counsel."

Respondent relies upon *Peoples Petroleum Producers v. Smith*, 1 Fed. 361. In that case the proration formula first set up by the Commission was found invalid because it pro-

rated solely on a per well basis. The Court found that such proration in operation would penalize the areas with largest productive capacity and was not a basis for "ratable taking" which would give to each producer a fair opportunity to recover the oil in place. That decision striking down an order which inequitably and *adversely* affected producers situated as is the Respondent is certainly no precedent for a formula which inequitably but *favorably* affects the Respondent. Even in that case one of the basic objections to the Commission order was that that order permitted undue drainage. In that case, Judge Hutcheson, considering the plight of producers situated as producers on the west are in this case, said,

"Whereas, if the present condition is maintained, plaintiffs will lose oil to which they are entitled to the wells on the East, and long prior to the exhaustion of the oil and gas in the reservoir, the rise in the water will saturate plaintiff's wells, drowning them out, and the sands lying to the east will produce the oil which has been driven from plaintiff's lands to them".

The proration formula adopted by the District Court below and affirmed by the Circuit Court of Appeals is thus fatally defective because it inequitably favors the Respondent and others similarly situated and does not conform to the basic property law of oil in place.

III.

The Proration Order of the Railroad Commission Is Not Unreasonable, Arbitrary and Confiscatory of the Property of the Respondent.

The search for a valid proration order in Texas took a torturous path between Federal Court and State legislature until finally a proration order met court approval. *Marshall and Meyers*, "Legal Planning of Petroleum Production: Two Years of Proration," 42 Yale Law Journal, 701 (1933).

The present method in its fundamental essentials has been invoked since 1933. *Amazon Petroleum Corporation v. Railroad Commission*, 5 Fed. Supp. 663 (1933). Cf. *Danciger Oil and Refining Co. v. Smith*, 4 F. Supp. 236.

The present method is a fair and reasonable attempt to give each producer an "equal opportunity" to get his "fair share of the oil from the common reservoir". This does not mean that each producer must get his aliquot share of the total quantity without regard to the dynamics of oil production which directly affect the actual quantity available in the field as a whole and to any part thereof. This present proration formula is flexible, permitting a reassignment of weights to each factor as continuous study and observation of the field in operation makes it advisable. For example, as a result of further Hearings and collection of data, a subsequent Order has given greater weight to sand thickness. This Order likewise has been stricken by a statutory Court because proration was not based solely on the ratio of lease reserves to full reserves.

Humble Oil Co. v. Railroad Commission, Decided D. C. (W. D. of Tex.), Feb. 21, 1940, unreported as yet, Appeal pending, No.

Rowan and Nichols v. Railroad Commission, D. C. (W. D. of Tex.), unreported as yet, Appeal being perfected.

The East Texas field has served as a scientific laboratory where proration has been tested and the technique of curtailment of production has been developed. Much has yet to be learned, particularly in the ascertainment of the amount of recoverable oil in a reservoir.

The present proration method does not presently injure Respondent. The present proration method is geared to readily ascertained and measurable factors. It is designed to permit the equitable exploitation of the field by maintaining the relative relationship between producing properties in a dynamic process of production. Curtailment is main-

tained as a relative matter as between wells and not on any absolute basis. As long as each well has opportunity to use the common reservoir energy to recover its oil in place without undue dissipation of the energy and without improper drainage, as long as no oil is displaced and set in migration, as long as the optimum total amount of oil is produced, it is immaterial what the actual reservoir content is or what the total recovery of an area or of the field may turn out to be. Over the life of the field, each well will get its "fair share" of the total recovery whatever it may be and despite the inaccuracies of any estimates of the recoverable oil.

The Respondent has not shown that he has been deprived of a "fair share" of the oil in place thus far in the development of the field. The contrary is true; despite all it has produced Respondent has, through improper drainage, still practically as much oil under its land as when it started (*Supra*, p. 9). It asks for more oil *now* for fear it will lose some in the *future*. In order to assuage its fear, it asks for a new basis of proration based on dubious estimates of recoverable oil, which would give it a vested right in continued *drainage to its property*.

The present method is not dependent upon highly conjectural estimates of recoverable oil. As yet there has been developed no scientific method of determining the amount of recoverable oil in a given area with sufficient accuracy for purposes of apportionment. Great strides have been made and estimates serve many practical purposes. However, the estimates of experts vary so greatly because of the variable factors involved (R. 365, 369, 380, 387, 509-518) that the Commission has long officially taken the position that it can not accept such estimates for use in proration (R. 925). No better illustration of this can be found than in the estimates made at different times by Mr. Rowan of the Respondent for the Todd "B" lease. In various legal proceedings, Mr. Rowan has testified that the recoverable oil per acre-foot for this lease is 45,000 barrels or 70,000 barrels or

60,000 barrels (R. 906). The variation is as much as 55%. The Courts below have taken the last estimate, apparently because it is last, as the basis for the judgment in this case.

The Respondent has shown no basis to attack the reasonableness of the Commission's Order. The present proration method has certainly not as yet injured Respondent. In fact, primarily due to early defects, the proration system has permitted Respondent to produce in excess of 355,000 barrels of oil and, at the same time, to replenish his reservoir by draining practically that amount to his lease. No present net drainage away from the lease and no present confiscation have been shown, only alarms for the future while Respondent has gained for the day.

Injunctive relief should have been denied Respondent in this case as lower Federal Courts have done in similar cases challenging proration orders where no present irreparable injury was established. *Borrollium Oil Co. v. Smith*, 4 F. Supp. 624; *Milton v. Railroad Commission*, 10 F. Supp. 984. The refusal to grant relief without a showing of present irreparable injury to the property of Respondent is in accord with the doctrine frequently reiterated by this Court. *Premier-Pabst Sales Co. v. Grosscup*, 298 U. S. 226, 56 S. Ct. 754; *Dahke-Walker Milling Co. v. Bondurant*, 257 U. S. 282, 42 S. Ct. 106; *Commonwealth v. Mellon*, 262 U. S. 447, 43 S. Ct. 597; *Aetna Insurance Co. v. Hyde*, 275 U. S. 440, 48 S. Ct. 174; *Yazoo v. Jackson*, 226 U. S. 217, 33 S. Ct. 40; *Murphy v. California*, 225 U. S. 623, 32 S. Ct. 697. The mere fact that others may receive more than a fair share of the oil is not grounds for relief, if the Respondent is receiving his fair share. In fact, the Respondent's wells are more densely drilled than the average in the field. It can not complain if others are still more densely drilled. *Empire Gas and Fuel Co. v. Railroad Commission*, 94 S. W. (2d) 1240. Cf. *Kuchner v. Irving Trust Co.*, 299 U. S. 455, 57 S. Ct. 298.

IV.

The Commission's Order Does Not Deprive the Respondent of Its Oil in Place.

It is conceded, even by the expert witness for the Respondent, that at the present time there is substantially as much oil beneath the Todd "B" lease as there was initially (R. 621). Nevertheless, the Respondent claims that the Commission's order will operate to deprive it of its oil in place.* The Respondent introduced calculations to prove it, comparing estimates of "recoverable oil" beneath its tract and estimates of the total recoverable oil in the East Texas field and the current rates of production. The reliability of the estimates of the recoverable oil beneath the Todd "B" lease has already been commented upon. The bald estimates as to the total recoverable reserves of the field is equally suspect. The Record does not disclose the basis for the figure used.

The Respondent introduced an Exhibit using these "estimates" and calculating the time it would take to exhaust the field's "estimate" at the present fixed field allowable and the time it would take to exhaust its lease's "estimate" at the *present fixed* lease allowable. (Exhibit No. 2, offered R. 120, copied R. 675). The Courts below adopted this method of calculation although they did not adopt the same figures. The District Court found (R. 72) that at the present

* How the Respondent is presently injured is most obscure. Evidence was introduced to the effect that the per acre recovery originally was 60,000 barrels of the oil originally in place while at the time of trial it was about 46,000 barrels due to production but that the production from the lease was not proportionate to the production for the field as a whole (R. 107). In other words, of the original oil in place not as much was withdrawn as should have been. Meanwhile, the oil taken has been substantially replaced (R. 311, 621). Respondent claims as "recoverable oil" oil it can produce "wherever it might come from" (R. 308). Apparently, the loss lay in the fact that the lease's rate of production was not rapid enough to have drawn still more oil from beneath someone else's property.

rate of production, the field would be depleted in 11 years while it would take the Respondent 28 years to produce the estimated amount of "recoverable oil" "wherever it might come from" (R. 308). The Circuit Court of Appeals adopted the figures showing that the field would be depleted in 16 or 17 years in which time the Respondent "would be permitted to produce only approximately one-half of the oil it owned" (R. 1009).

Both Courts made the fundamental error of taking the Exhibit without the gloss. Upon cross-examination, Mr. Buck who prepared the Exhibit confessed to its error. It assumes, contrary to the fact (R. 527), that the allowable for this lease in the Fairway will remain static rather than increase as wells on the edges become depleted first. Brief excerpts from the Record demonstrate beyond peradventure the fallacy in these calculations:

From Cross-Examination of Mr. Buck:

"Q. Of course, Mr. Buck, as the water levels rose, the wells here along the western edge of the field would go out of production wouldn't they?

"A. Yes.

"Q. And also it would follow, would it not, Mr. Buck, that if instead of keeping the same allowable for the well you kept the same total allowable for the field, as the wells on the west were forced to close down by reason of encroachment of the water, there would be a greater allowable for the remainder of the wells.

"A. Yes, sir.

"Q. As these wells on the west went out the Rowan & Nichols allowable would be increased all the time, wouldn't it?

"A. That is right.

"Q. In calculating the number of years Rowan & Nichols would take to get their oil you assumed the same daily allowable from there on, didn't you?

"A. Yes, sir.

"Q. That wouldn't be true, Rowan & Nichols would get a higher allowable as the wells on the west side went on?

"A. Some higher allowable, that is true.

"Q. So it wouldn't take as long to get their production out as it shows in this schedule to produce their oil?

"A. Perhaps not.

"Q. That is correct, is it not?

"A. That is correct." (R. 302).

It is submitted that the Courts below were clearly in error in holding that the present method of proration would cause any deprivation of Respondent's oil during the productive life of the field and leases. On the contrary, because of its location, the Respondent's wells will be among the longest lived wells and they will receive progressively increased allowables as the rest of the field goes out of production. They will benefit by any drainage and migration of oil. They stand best of all to produce at least the equivalent of the oil originally in place. (R. 393, 456, 514, 527, 571). Certainly the contrary of any loss by depletion has been true thus far (R. 621).

V.

The Delay in Production of Respondent's Lease Due to the Tempo of the Proration Schedule Is Not Confiscatory.

The Commission freely concedes that the current rate of production for Respondent's wells, if maintained indefinitely, would not provide the Respondent with its fair share of oil. However, over a period of time the progressive increase in allowable for its wells will equalize matters between the correlative producers and give to each his aliquot share for the period. This, it is suggested, constitutes present day confiscation and compels the Respondent to gamble on the future markets for its oil (R. 72). In this connection, the Respondent compares the present allowables permitted to some of its wells capable of producing over

20,000 barrels a day (R. 99) with that for wells which barely make 20 barrels per day (R. 118, 677) and claims the curtailment as to its property is not necessary to prevent waste (R. 550) and is denial of due process.

The phrase "20,000 barrels a day" is highly deceptive. This potential capacity is determined by a test in which a well is allowed to run at capacity for an hour with surrounding wells shut in so as to give the test well the full benefit of the pressure in the area (R. 427). The result is only an index number for relative "potentials". If the field were produced at open flow, the potentials for all flush wells would rapidly decline through the great dissipation of energy. 20,000-barrel wells thus would not produce at that rate except for a very short period.

In the light of what Respondent concedes, the charge of confiscation is specious. It concedes its wells may in the interest of conservation be curtailed from over 20,000 barrels a day to about 44 barrels a day without constituting "present day confiscation". The curtailment from about 20,000 barrels a day to a little over 22 barrels a day (with progressive increase over the life of the field) in the interest of equitable conservation can hardly have any more dire confiscatory consequences nor cause a much more noticeable gamble on the future.

The demand to produce more because one can produce one's oil "without waste" without regard to the effect on the conservation plan for the whole field or the correlative rights of producers in a common pool has been raised from the earliest days of conservation legislation. From the first, it has been well established that such curtailment in the interest of a broad conservation policy and on behalf of the correlative rights of all producers is valid.

Champlin Refining Co. v. Corporation Commission, 286 U. S. 210, 52 S. Ct. 559.

The protest over delay in production is thus without merit. The objection to greater production per acre in some

areas as compared with that of Respondent is considered hereinafter.

VI.

A Disproportionate Present Allowable to Wells on Small Tracts per se Is Not Ground for Invalidating the Proration Order.

Because many of the wells drilled on small tracts are located in the thin sand area (R. 677), it has been too easy to confuse any inequity of granting a full equal allowable to a well on a small tract as compared to an offset on a full sized tract with the justifiable difference in tempo of production as between different locations in the field. It can not be gainsaid that a producer may have a legitimate complaint under certain conditions in a situation where equal allowables are given to off-setting wells on leases greatly differing in size. The law recognizes the possibility of inequity in such cases. *But the answer does not lie in the invalidation of the proration orders for the field as a whole.*

In this connection, the District Court stated that "The difficulty in which the Commission finds itself grows largely out of its relaxation of its own spacing rules" (R. 73). Irritation directed at the Commission, whether justified or not, in this case results in a decision adversely affecting not the Commission but the producers having correlative rights in the field.

The admittedly more rapid production depletion of the tracts on the edges under the method of proration embodied in the Commission's order is not confiscatory of Respondent's property. True, the sands are thinner (R. 288, 394) and the density of wells is great (R. 677) and the pressure on the west is high (R. 355). But the life of wells located on these tracts is comparatively short (R. 397); they must produce the equivalent of their oil in place at a more rapid tempo than do wells in the Fairway or face death themselves, and witness the migration of oil in place to the long lived wells of the Fairway (R. 571).

The threat of drainage from Respondent's lease is not a current problem. Despite the obvious drainage to the Respondent's lease, Respondent charges the operation of the Commission's order will cause drainage from its lease eastward to still other leases in the Fairway: It will be remembered that the East Texas reservoir is triangular in shape with the lower eastern side formed by impervious rock and the lower western side by the slowly (as a result of proration) rising water table. The Respondent's lease is west of the juncture of these two sides and is underlaid by water. It is its contention that the wells to the east on the "dry side" are even longer lived than its wells and that as the water table rises it will eventually drown out its wells while forcing a migration of its oil eastward (R. 606).

However, the field has not yet reached the stage where the drainage has progressed to the point where Respondent is losing any oil in place or its equivalent (*Supra*, p. 9). Meanwhile, other areas are being given opportunity by the staggered production allowables to obtain the oil in place or its equivalent within their areas. After the western thin sands have been drowned out and the tight eastern sands have been depleted, production will be confined to the thick sands of the Fairway. It may well be at some future time that the balance of in-drainage and out-drainage will shift so that Respondent's wells will stand to lose the equivalent of its oil in place.

At such a time, Respondent would have a legitimate claim. It is one of the virtues of the present proration method that it is flexible and that varying weights can be given different factors in the proration formula as the current facts require. The Respondent would have its administrative remedy of obtaining a change in the proration formula to do equity under the then developed conditions upon a proper showing at an administrative hearing.

Certainly, potential future drainage from Respondent's lease does not justify it in claiming actual present drainage

to its lease to the deprivation of others of their oil in place or its equivalent.

The wells drilled on small tracts under Rule 37 exceptions are legal producers entitled to oil in place or its equivalent. The Respondent has conceded that all the wells drilled under the spacing regulations are legal (R. 4) and entitled to the oil in place or its equivalent. The Respondent itself was well in the van of the race for permits to drill wells on exceptions to the general spacing rule (*Supra*, p. 9). Where such wells have been drilled, they have been drilled under a permit issued by the Commission after hearing and a finding that such a well is necessary in order to prevent waste or to prevent the confiscation of property (R. 896). Or they have been drilled under court injunction upon a reversal or a denial of a permit by the Commission. Cf. *Gulf Land Co. v. Atlantic Refining Company*, 131 S. W. (2d) 73.

Likewise, if any permit for an exception is improvidently given by the Commission any person who has been adversely affected can have a court appeal to set aside such a permit. Texas Revised Civil Statutes, as Amended, 1935, Article 6049c.

Being more densely drilled than the average of the field (*Supra*, p. 9), the Respondent can not complain merely because others are still more densely drilled unless the densely drilled tracts are close enough so as to cause adverse drainage as between the respective leases (*Supra*, p. 9). *Boxrollium Oil Co. v. Smith*, 4 F. Supp. 624; *Milton v. Railroad Commission*, 10 F. Supp. 984.

The case of the "Wood" well. The Record discloses only one well close enough to the Respondent's lease to threaten drainage, that belonging to R. M. Wood. R. M. Wood has a one-acre tract surrounded by the larger tracts of the Respondent and other producers. From the discovery of the field until August, 1937, it was unproduced, the oil beneath it being drained to the wells in the sur-

rounding tracts (R. 114). Finally a permit to drill a well was granted to Wood on December 23, 1936, after due hearing (R. 955). Opposition was raised thereto and a rehearing was granted but the grant of the permit was affirmed (R. 957). The Respondent and another offsetting producer took an appeal to the District Court of Travis County, Texas. It was found that the permit was granted "to prevent confiscation of property". The complainants lost their case and the judgment of the District Court was affirmed in the Court of Civil Appeals. *Shell Petroleum Corporation v. Railroad Commission*, 120 S. W. (2d) 526. Application for writ of error was dismissed by the Texas Supreme Court.

The Wood well has been producing for about three years. Basing calculations on the figures of the Respondent (R. 675), this well with the allowable now granted to it would take some ten years to produce the equivalent of the oil in place. Meanwhile, some of the Respondent's wells have been producing for nine years and during the earlier years were draining the Wood lease (R. 569). The Wood well is now recovering the equivalent of the oil in place to restore it to its original relative position with the Respondent's wells. Meanwhile, it should be remembered that the Respondent-Wood area has gained by drainage; thus far, at least, there has been no net drainage from the Respondent due to the Wood well.

However the Respondent does not have to stand by and permit undue drainage to the Wood well. Rule 37 envisages the necessity, when the facts of a specific case require, of granting an exception permit to off-set a well drilled on an exception. In the proceeding of this case before the Commission, the Respondent established that the facts justify consideration to it. Thereupon, the Commission specifically granted a permit to drill a sixth well on the Todd "B" lease to off-set the drainage attributable to the Wood well (R. 38).

The Respondent protests that its present wells are sufficient to produce all of the oil in place or its equivalent beneath its lease without waste and that it should not be subjected to the costs of an additional well to give it its fair share of oil and to protect it against the Wood well. However, the Respondent is not required to drill the sixth well. Over a slightly longer period of time, it will recover the oil in place or its equivalent with only five wells. Meanwhile, as long as it gets its full share, it can not complain if the Wood well seems to be receiving proportionately more. See the *Boxrollium case*, *Supra*, p. 37. However, at some future time should the facts then disclose that the operation of the Wood well will cause an actual net drainage loss to Respondent, it has its administrative recourse to the Commission for an adjustment in allowables. Its present action is premature. *Magnolia Petroleum Co. v. Blankenship*, 85 F. (2d) 553; *Cf. Brown v. Humble Oil Co.*, 126 Texas 296, 83 S. W. (2d) 935.

The minimum allowable per well is not inherently unreasonable or arbitrary. The Respondent has conceded that in a proration formula a minimum allowable is essential. (*Supra*, p. 13). Objection was made that the twenty-barrel minimum allowable was too high. The Courts below were highly critical of the allowable. Moreover, under the proration formula they approved no minimum allowable was allotted. The fact that this formula in operation would result in a total allowable to some wells as low as five or six barrels was not found unreasonable. This was found to be so on the theory that the financial income would be enough so as not to be confiscatory. Consideration of drainage from the lease because of too small a minimum was given little consideration.

However, when the formula thus adopted is found invalid, the question of the reasonableness of the twenty-barrel allowable again must be considered. The burden of proving the reasonableness of the weight given to this

factor is not upon the Commission. The order is presumptively valid unless positively shown to be arbitrary. *Thompson v. Consolidated Gas Utilities Co.*, 300 U. S. 55, 69, 57 S. Ct. 364; *Henderson Co. v. Thompson*, 300 U. S. 258, 264, 57 S. Ct. 447; *Champlin Refining Co. v. Corporation Commission*, 286 U. S. 210, 234, 52 S. Ct. 559; *Knoxville v. Knoxville Water Co.*, 212 U. S. 1, 7, 29 S. Ct. 148.

Commission experts testified at length on the reasonableness of the minimum set by the Commission (R. 522, 411, 421). The Record discloses that experts for the Respondents likewise recommended minimum figures, some closely approximating that set by the Commission. One expert for the Respondent, conceding the necessity for a minimum (R. 328), testified that a minimum of between 15 and 17½ barrels per day should be allowed (R. 304). Another suggested but "wouldn't say arbitrarily" that ten barrels is sufficient (R. 638). A third recommended 5 barrels as an "arbitrary figure" (R. 155), apparently solely on the ground that a well could pay out financially over a period of time with this allowable. The first expert noted above testified that such an allowable would cause many flowing wells to go on the pump in about two weeks (R. 276).

The Commission, in its discretion and for conservation reasons more than financial, determined upon twenty barrels a day for its formula. There is no showing that on the Record before it at its administrative hearing that this action constituted an abuse of discretion. The judgment of the lower Courts is not to be substituted for that of the Commission if the action of the Commission is not unreasonable in the light of the evidence before it. Nothing has been shown in this case to overcome the presumption that the Commission's order is valid. *Rochester Tel. Corp. v. U. S.*, 307 U. S. 125; *Mississippi Valley Barge Line Co. v. U. S.*, 292 U. S. 286; *Swayne and Hoyt, Ltd. v. U. S.*, 300 U. S. 297, 303.

CONCLUSION.

The decisions of the lower Courts create a method of proration which would deprive some producers of oil in place and give to others, such as the Respondent, a vested right in drainage contrary to the settled property law of Texas of oil in place. The lower Courts set aside a proration order of the Railroad Commission properly within its administrative powers and which were not demonstrated to be unreasonable, arbitrary, or confiscatory as to Respondent. For the reasons stated, it is respectfully submitted that the judgment of the Circuit Court of Appeals for the fifth circuit, affirming the judgment of the District Court for the Western District of Texas, should be reversed.

Respectfully submitted,

NORMAN L. MEYERS,
Amicus curiae.

7. 2-4-6

SUPREME COURT OF THE UNITED STATES.

No. 681.—OCTOBER TERM, 1939.

Railroad Commission of Texas et al., Petitioners, vs. Rowan & Nichols Oil Co.	} On Writ of Certiorari to the Circuit Court of Ap- peals for the Fifth Cir- cuit.
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[June 3, 1940.]

Mr. Justice FRANKFURTER delivered the opinion of the Court.

The question before us is the validity, when challenged by appeal to the Fourteenth Amendment, of an oil proration order promulgated by the Railroad Commission of Texas, insofar as it applies to the respondent's wells.

To safeguard its oil resources Texas has devised a regulatory scheme for their production, and has placed its administration in the Railroad Commission's hands. Revised Civil Statutes, Arts. 6014 *et seq.* In conformity with this statute, which has familiar procedural provisions, the Commission in the fall of 1938 issued the assailed proration order covering the East Texas oil field, where respondent's wells are located. By this order each well was allowed to produce 2.32% of its "hourly potential"—that is, 2.32% of its hourly productive capacity under unrestricted flow. But the practical operation of this order was largely cut across by allowances made to "marginal wells". These are wells which, if their low productive capacity were legally curtailed, would have to be prematurely abandoned. Therefore the Texas statute gives them a special status. In accord with its policy toward these marginal wells, the Commission freed them from the burden of its hourly potential formula by allowing them production up to twenty barrels a day. Because of the large number of these low capacity units in the East Texas field, approximately 385,000 barrels out of a total daily "allowable" of 522,000 barrels were exempt from the restricting formula, leaving only about 136,000 for the class within which respondent's wells fell. Application to them of the hourly potential formula resulted in an allotment of only about twenty-two

2 *Railroad Comm. of Texas et al. v. Rowan & Nichols Oil Co.*

barrels a day to each well. Claiming that such a mode of regulation disregarded its right to the oil in place beneath its leases, respondent sought and obtained a decree from the District Court for the ~~East~~st District of Texas enjoining the Commission from carrying its proration plan into effect. 28 F. Supp. ¹³⁴~~133~~. With modification not here relevant the Circuit Court of Appeals affirmed the decree. 107 F. (2d) 70. We brought the case here by certiorari, 309 U. S. —, because of the importance of the matter in the administration of the Texas law and kindred conservation statutes.

As sustained by the findings of the District Court and accepted by the Circuit Court of Appeals, respondent's claims may be summarized by what follows. The Commission's proration formula as applied permits other leaseholders, more leniently treated, to capture oil at a more rapid rate than is possible for the respondent, thereby draining away oil which underlies respondent's leased lands. This is due both to the allocating formula itself, and more especially to the permission granted marginal wells to produce without limit up to twenty barrels a day. The "potential" method of allocation fails to give sufficient weight to relevant factors in the measurement of oil in place, especially to the depth of respondent's reserves situated in the "Fairway", a deep and rich portion of the East Texas field. Only an allocation based upon acre-feet of sand or its equivalent would be a reasonable means of measuring the oil in place beneath respondent's leases; and any formula failing to do this takes respondent's property without due process of law. Moreover, the allowance made to marginal wells absorbs so much of the total "allowable" as to make the Commission's order in effect an allocation on a flat per well basis, regardless of great variation in the capacity of the wells and the density with which different leases have been drilled. An important factor in producing this result is the permission frequently granted by the Commission, under power conferred upon it by statute, for departure from its spacing and drilling rules whereby the field has been drilled with an irregular density. As a consequence, the more densely drilled tracts adjoining respondent's leases may, by virtue of their marginal allowances, produce oil in such quantities as to drain away respondent's reserves. Such is the basis for respondent's resistance to the order.

Underlying these claims is as thorny a problem as has challenged the ingenuity and wisdom of legislatures. In major part it was created by the discovery of vast oil resources and by their development under rules of law fashioned in the first instance by courts on the basis of analogies drawn from other fields of the common law. In Texas, according to conventional doctrine, the holder of an oil lease "owns" the oil in place beneath the surface. *LeMar v. Garner*, 121 Tex. 502; *Stephens County v. Mid-Kansas Oil & Gas Co.*, 113 Tex. 160; 1 Summers, *Oil and Gas* (2nd ed.), p. 16. But equally recognized is the "rule of capture" which subjects the lessee's interest to his neighbors' power to drain his oil away. Therefore, to speak of ownership in its relation to oil, is to imply a contingency of control not applicable to ordinary interests in realty. See Ely, *The Conservation of Oil*, 51 Harv. L. Rev. 1209, 1218-22. Each leaseholder, that is to say, is at the mercy of all those who adjoin him, since oil is a fugacious mineral, the movements of which are not confined by the artificial boundaries of surface tracts. This gap between the geological nature of the oil pool and the formal surface rights of the lessees is frequently bridged by the drilling of "offset wells" at the boundary of each surface tract, so that owners may protect themselves against the exercise of one another's capture rights. Partly to mitigate the undesirable consequences of this unsystematized development, the oil-producing states, Texas among them, have enacted conservation laws with appropriate administrative mechanisms to control drilling and production. The general scheme of the Texas statute is not challenged. Its constitutionality is here settled. *Champlin Ref. Co. v. Commission*, 286 U. S. 210.

But merely writing laws is only the beginning of the matter. The administration of these laws is full of perplexities. State agencies have encountered innumerable difficulties in trying to adjust the many conflicting interests which grow out of the rule of capture and its implications. The experience of Texas illustrates that a brood of litigation almost inevitably follows the inherent empiricism of these attempted solutions. See Ely, *op. cit. supra*, at pp. 1225-29; Marshall and Meyers, *The Legal Planning of Petroleum Production: Two Years of Proration*, 42 Yale L. J. 701. For some years the Texas Commission has been engaged in experimental endeavor to

devise appropriate formulas for a fair allotment of the allowable production. The commitment of such a delicate task to the administrative process has not escaped challenge in the courts, and at times the challenge has been successful. Compare *MacMillan v. Railroad Commission*, 51 F. (2d) 400; *Constantin v. Smith*, 57 F. (2d) 227; *Peoples' Petroleum Producers v. Smith*, 1 F. Supp. 361; *Amazon Petroleum Corp. v. Railroad Commission*, 5 F. Supp. 633. But such cases are only episodes in the evolution of adjustment among private interests and in the reconciliation of all these private interests with the underlying public interest in such a vital source of energy for our day as oil. Certainly so far as the federal courts are concerned the evolution of these formulas belongs to the Commission and not to the judiciary. ~~Except where the jurisdiction rests, as it does not here, on diversity of citizenship, the only question open to a federal tribunal is whether the state action complained of has transgressed whatever restrictions the vague contours of the Due Process Clause may place upon the exercise of the state's regulatory power.~~ A controversy like this always calls for fresh reminder that courts must not substitute their notions of expediency and fairness for those which have guided the agencies to whom the formulation and execution of policy have been entrusted.

General as these considerations may be, they are decisive of the present case. Both the District Court and the Circuit Court of Appeals appear to have been dominated by their own conception of the fairness and reasonableness of the challenged order. For all we know, the judgment of these two lower courts may have been wiser than that of the Commission, and their standard of fairness a better one. But whether a system of proration based upon hourly potential is as fair as one based upon estimated recoverable reserves or some other factor or combination of factors, is in itself a question for administrative and not judicial judgment. According to the Commission's experts, theories of allocation urged by the respondent and accepted by the courts below would in fact give to respondent more than its fair share of the oil in the field. Respondent, the Commission's witnesses contend, would gain undue benefit from the constant eastward migrations of oil caused by the gradual influence of subsurface pressure gradients—and this at the expense of other lessees in geologically less fortunate portions of the field. The Commission's experts further insisted that, though much technical pro-

gress has been made, estimates of recoverable reserves beneath the surface of a particular tract remain largely an indeterminate venture; and that hourly potential actually takes into account, at least in some measure, all relevant factors for ascertaining recoverable reserves. Certainly in a domain of knowledge still shifting and growing, and in a field where judgment is therefore necessarily beset by the necessity of inferences bordering on conjecture even for those learned in the art, it would be presumptuous for courts, on the basis of conflicting expert testimony, to deem the view of the administrative tribunal, acting under legislative authority, offensive to the Fourteenth Amendment. Compare *S. C. Hwy. Dept. v. Barnwell Bros.*, 303 U. S. 177, 191, *et seq.*

Equally enmeshed in a conflict of *expertise* is the claim most vigorously urged by respondent that, taken in connection with exceptions made by the Commission to its spacing rules and with the unrestricted twenty barrel allowance to marginal wells, the proration order substantially places production on a flat per well basis. Such a result, according to respondent's claim as accepted by the lower courts, gives a constitutionally inadmissible advantage to smaller and more densely drilled tracts as against those owned by respondent. But this claim really presents a more specialized aspect of the general problem. In regulating flow of production the treatment to be accorded to small and irregularly shaped tracts which do not fit neatly into the Commission's general scheme for spacing, has presented a difficulty almost as great as the framing of proration formulas. Compare Walker, *The Problem of the Small Tract under Spacing Regulations*, 17 Tex L. Rev. 157 (Supp. Bar Association Proceedings). To deny the holders of these tracts permission to drill might subject them to the risk of losing their oil in place or of being put at the mercy of adjoining holders. In many instances, therefore, the Commission has granted exceptions to its general spacing rule on the basis of which investments have been made and wells drilled. If these wells, most of them small, were restricted to production on the basis of an hourly potential formula, it might be unprofitable to operate them at all. Not only are the individual interests of these small operators involved, but their effect on the state's economy is an appropriate factor to be taken into account when plans are devised to keep the wells open.

A flat per well allowance to these producers was not an unnatural answer to the problem. Whether, as contended by the respondent, the maximum figure set by the Commission is too high in that it leads to the capture of oil from beneath its leases by neighboring operators, and whether a lower limit might suffice to assure profitable production—these questions take us into that debatable territory which it is not the province of federal courts to enter. The record is redolent with familiar dogmatic assertions by experts equally confident of contradictory contentions. These touch matters of geography and geology and physics and engineering. No less is there conflict in the evidence as to the solidity of respondent's apprehension that there will be drainage of the oil beneath its surface by neighboring wells. The Commission's experts insist that the threat, if existent at all, is speculative, and that the Commission's power of continuous oversight is readily available for relief if real danger should arise in the future.

Plainly these are not issues for our arbitrament. The state was confronted with its general problem of proration and with the special relation to it of the small tracts in the particular configuration of the East Texas field.¹ It has chosen to meet these problems through the day-to-day exertions of a body specially entrusted with the task because presumably competent to deal with it. In striking the balances that have to be struck with the complicated and subtle factors that must enter into such judgments, the Commission has observed established procedure. If the history of proration is any guide, the present order is but one more item in a continuous series of adjustments. It is not for the federal courts to supplant the Commission's judgment even in the face of convincing proof that a different result would have been better.

* 1 "While the presence of a federal question may also open up state issues, *Siler v. Louisville & N. R. R.*, 213 U. S. 175, the claim here founded on Texas law is derived from a statute requiring proration on a 'reasonable basis.' Vernon's Texas Annotated Civil Statutes (1925), art. 6049c, § 7. The Texas decisions, insofar as they have been brought to our attention, do not make clear whether the local courts may exercise an independent judgment on what is 'reasonable.' Compare *Brown v. Humble Oil & Refining Co.*, 126 Tex. 296, 316. But, in any event, as we read the Texas cases, the standard of 'reasonable basis' under the statute opens up the same range of inquiry as the respondent in effect asserted to exist in his claims under the Due Process Clause. These latter claims we have found untenable. What ought not to be done by the federal courts, when the Due Process Clause is invoked ought not to be attempted by these courts under the guise of enforcing a state statute. Whether the respondent may still have a remedy in the state courts is for the

SUPREME COURT OF THE UNITED STATES.

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Petitioners, the Circuit Court of Ap-
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vs.
Rowan & Nichols Oil Co.

[June 3, 1940.]

Mr. Justice ROBERTS.

The petitioners' proration order is challenged not merely as unfair or unreasonable but as confiscatory of the respondent's property. Upon the allegations of the bill, the District Court had jurisdiction. Although the problem of proration presented technical and difficult questions, and although the Commission was vested with a broad discretion in dealing with them, these facts could not justify the court's abdication of its jurisdiction to test the Commission's order. The case was tried *de novo* and neither the full record made before the Commission nor its findings appear in the evidence, except for what is contained in the Commission's orders. After a painstaking trial, and upon detailed and well supported findings of fact, the court reached the conclusion that the order worked a confiscation of respondent's property.¹ The court said: "The respondents' [petitioners'] engineers frankly admitted that the present scheme of proration is nothing more or less than one on a per well basis." Referring to such a basis, the court added: "It is sufficient to say that it takes no account of the difference in the wells, of the richness or thickness of the sand, of the location upon the structure, of the porosity or permeability of the sand, of the estimated oil reserves, or of the acreage upon which the respective wells are situated. The worst property is raised to the level of the best and the best is lowered to the level of the worst." The court concluded that the order operated to appropriate, for the benefit of others, the respondent's oil without compensation.

¹28 F. Supp. 131.

Texas courts to determine, and is not foreclosed by the denial, on the grounds we have indicated, of the extraordinary relief of an injunction in the federal courts."

2 *Railroad Comm. of Texas vs. Rowan & Nichols Oil Co.*

The Circuit Court of Appeals approved and adopted the findings and conclusions of the District Court.²

The opinion of this court, in my judgment, announces principles with respect to the review of administrative action challenged under the due process clause directly contrary to those which have been established. A recent exposition of the applicable principles is found in the opinion of Mr. Justice Brandeis, written for a unanimous court, in *Thompson v. Consolidated Gas Utilities Corporation*, 300 U. S. 55, dealing with a proration order affecting gas, entered by the same commission which entered the order here in issue. I think that adherence to the principles there stated requires the affirmance of the decree.

The CHIEF Justice and Mr. Justice McREYNOLDS join in this opinion.

² 107 F. (2d) 70.

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